VIII. Asthma and Health Disparities

Health disparities are unfair health burdens (in this case related to asthma) that result from "extra" exposure, prevalence or impact for a particular group of people. Potentially these may be biologically determined (physiologically vulnerable populations), but in particular we are interested in those differential impacts that arise from systematic creation or support of environmental risk factors or lack of access to effective asthma control for specific groups of people. That is, we are most interested in identifying disparities created as a result of how Washington State and its communities function, so that our society can "change the way it does business" to create health equity for all people.

As an example of an "environmental justice" investigation (disproportionate – or disparate – exposure of disenfranchised groups of people to environmental exposures), a 1995 study by the Washington State Department of Ecology found that there are a greater number of industrial facilities located in low-income and minority communities, which may be resulting in higher exposure among these residents.[i] Since a higher proportion of minority and low-income residents in Washington live in urban areas, these groups may also be exposed to higher than average levels of diesel exhaust.[ii]

Many of the studies on racial/ethnic disparities in asthma, for example, have made an attempt to examine additional factors related to race/ethnicity that might account for differences in asthma rates. A study using the National Health and Nutrition Examination Study, found that low income was the strongest independent predictor of asthma, and that the black-white difference was largely explained by income disparity. **Error! Bookmark not defined.** Another study, was able to examine urban residence, and found that after controlling for various factors, all urban children, regardless of race or income, were at increased risk for asthma. These and other studies **Error! Bookmark not defined. Error! Bookmark not defined. Error! Bookmark not defined. Error! Bookmark not defined. Error! Bookmark not defined. Error! Bookmark not defined. Error! Bookmark not defined. Error! Bookmark not defined.** have pointed out the considerable possibility that increased exposures to air pollution (from inner-city residence), lack of access to healthcare, higher smoking prevalence, higher exposure to secondhand smoke both prenatally and postnatally, racial or ethnic differences in health beliefs regarding preventive medications, overcrowding, greater exposure to irritants such as cockroach allergens, are the factors that likely account for the observed racial disparities in asthma prevalence, morbidity and mortality.

The Washington State Board of Health recently completed a report describing the issue of environmental justice in Washington,[iii] and this report called for promotion of "One Washington – a state where all residents experience the benefits of unprecedented prosperity, growth, clean air, clean water, and equal participation in government activities." This report identified low-income and minority communities as having a disparity for cancer and asthma related to their environmental exposures. The same report also identified significant disparities in availability of and access to health services exist between rural and urban Washington, between lower and higher income residents, and among racial and ethnic groups.

The identification of health disparities begins with examination of data. Unfortunately, public health surveillance systems (surveys), in order to operate as cost-efficiently as possible, may systematically fail with regard to particular populations. For example, as described earlier, the Washington BRFSS was only given in Spanish beginning in 2003 and so data collected prior to that time for Hispanic/Latino people would be biased toward more acculturated groups. Further, because it uses (non-cellular) telephone directory lists for sampling the BRFSS functionally excludes migrant farmworker populations (who are unlikely to obtain a telephone land line) and so even the addition of Spanish language will not assure that this important population in Washington is accurately described. Similarly, although the Healthy Youth Survey has been given in Spanish every year, it only captures information from youth enrolled in public school systems and therefore youth who have dropped out of school, or who attend non-public schools (including Tribal schools) are excluded. Also, although systems may appropriately capture all groups of people it may be difficult to identify some groups within that system. For example, Washington Death Certification data have been well documented to inaccurately capture Native American race, and therefore death rates for asthma or any other condition are likely to be under-reported for this group. Also, people who are gay, lesbian or bisexual have been included in surveys for years, but we could not identify who they were until a question about sexual orientation was added to BRFSS in 2003.

Public health surveys are continually evaluated for potential improvements so that they can include people as equitably as possible within the bounds of the resources they have to operate. Even when public health surveillance systems do operate as equitably as possible, small numbers of people from particular groups can be a barrier to their effective description. For example, as most residents in Washington are non-Hispanic and white, there are comparatively many fewer African American, Asian/Pacific Islander, Native American, or Hispanic/Latino included. Efforts to “oversample” these groups to improve their sample size, for example by geo-targeted sampling methods, can themselves introduce a new bias by effectively excluding minority group members who do not live in minority-dense areas.

Health disparities for asthma exist in Washington. Data presented in this report indicate that people with low incomes or less education, Native American, urban residents and lesbian/bisexual women may bear an unfair share of the burden of asthma. Some disparities may remain hidden; for example, prior to 2003 data suggested that Hispanics were at lower risk than non-Hispanics for asthma, but following addition of Spanish language to the survey we were able to find that more acculturated Hispanics have a similar asthma burden as non-Hispanics.

For the purpose of this report, all potential data that we could find to describe the burden of asthma in Washington have been identified and presented at least in summary. Future analyses will include more complex analyses intended to more completely identify and describe disparities for the purpose of informing public health advocates where their efforts can be best spent to create “One Washington” for asthma. None of the quantitative

data sources, however, will ever completely describe populations to our satisfaction, and thus more subjective information – case reports, community or institutional knowledge, and the beliefs of community leaders and members – must be actively included in any discussion about what groups are at greatest risk.

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i Hazardous Waste and Toxics Reduction Program. A Study of Environmental Equity in Washington State. Washington State Department of Ecology. 1995 Oct. Available from: http://www.ecy.wa.gov/pubs/95413.pdf (last accessed 5-2-05)

ii Korenstein S, Piazza B. An exposure assessment of PM10 from a major highway interchange: are children in nearby schools at risk?. J Environ Health 2003;65(2):9-17.

iii Washington State Board of Health. Carl Osaki, Joe Finkbonner Ed. Final Report State Board of Health Priority: Environmental Justice. June 2001.